

REMARKS

The present application was filed on January 23, 2004 with claims 1 through 26. Claims 1 through 26 are presently pending in the above-identified patent application. Claims 1, 6, 11 and 22 are proposed to be amended.

In the Office Action, the Examiner rejected claims 1-3, 6-8, 11-13 and 22-24 under 35 U.S.C. §102(b) as being anticipated by Troutman (United States Number 3,848,236) or Fournel (United States Number 6,307,797). In addition, the Examiner rejected Claims 4-5, 9-10, 14-15 and 25-26 under 35 U.S.C. §103(a) as being unpatentable over Troutman in view of Mashiko et al. (United States Number 4,833,653). The Examiner indicated that claims 16-21 are allowed.

Independent Claims 1, 6, 11 and 22

Independent claims 1, 6, 11 and 22 were rejected under 35 U.S.C. §102(a) or 103(a) as being unpatentable in view of Troutman, or Troutman in view of Furutani or Mashiko et al. With regard to claims 1, 6, 11 and 22, the Examiner asserts that during a read operation, Troutman turns on a plurality of precharge transistors 21-26 during a precharge interval by the ϕ_{1+2} clock signal.

FIG. 2 of Troutman shows a precharge interval (ϕ_1 and ϕ_2) prior to an evaluation interval (ϕ_3 and ϕ_4). As shown in FIG. 2, the precharge signal is low during the precharge interval (ϕ_1 and ϕ_2) and then goes high for the evaluation interval. The ϕ_1 and ϕ_2 clock signal thus controls the duration of the precharge pulse. The precharge pulse starts with the rising edge of the ϕ_1 clock signal and terminates with the subsequent falling edge of the ϕ_2 clock signal. Troutman shows a precharge interval (phases 1 and 2) prior to the evaluation phase. Thus, if the phases 1 and 2 are long (or wide) or the clock stops during phase 1 or 2, the leakage will continue to occur. With the present invention, on the other hand, the precharge phase terminates independent of a clock edge.

Each of independent claims 1, 6, 11 and 22 have been amended to emphasize that the precharge phase terminates independent of a clock edge. Support for this amendment may be found in the original specification, for example, at page 8, line 2.

Thus, Troutman does not disclose or suggest a "precharge phase (that) terminates independent of a clock edge," as required by independent claims 1, 6, 11 and 22.

The Examiner has also cited Fournel, but has not indicated any portions of Fournel that are applicable to the present invention. Fournel is directed to techniques for improving access times, and does not disclose or suggest any techniques for reducing leakage current. In particular, Fournel does not disclose or suggest that the precharge phase shown in FIG. 3 may be "terminate(d) independent of a clock edge," as required by independent claims 1, 6, 11 and 22.

Applicants respectfully request the withdrawal of the rejection of independent claims 1, 6, 11 and 22.

Dependent Claims

Claims 2-5, 7-10, 12-15, and 23-26 are dependent on independent claims 1, 6, 11 and 22, and are therefore patentably distinguished over Troutman, Fournel, or Mashiko et al. (alone or in any combination) because of their dependency from independent claims 1, 6, 11 and 22 for the reasons set forth above, as well as other elements these claims add in combination to their base claim.

The Examiner indicated that claims 16-21 are allowed.

Following entry of the amendments it is respectfully submitted that all of the pending claims, i.e., claims 1-26, are in condition for allowance and such favorable action is earnestly solicited.

If any outstanding issues remain, or if the Examiner has any further suggestions for expediting allowance of this application, the Examiner is invited to contact the undersigned at the telephone number indicated below.

The Examiner's attention to this matter is appreciated.

Respectfully submitted,



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